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| 09/890,315 | 01/09/2002 | Detlef Teichner | West.6268 | 9488 |
| 50811 7590 05/01/2007 O'SHEA, GETZ & KOSAKOWSKI, P.C. 1500 MAIN ST. SUITE 912 SPRINGFIELD, MA 01115 | | | EXAMINER CHOWDHURY, SUMAIYA A | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 09/890,315 | | TEICHNER, DETLEF | |
| | Examiner | | Art Unit | |
| | Sumaiya A. Chowdhury | | 2623 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.
2. Although a new ground of rejection has been used to address additional limitations that have been added to the claims, a response is considered for several of applicant's arguments since the references used in the previous Office Action will continue to be used to meet several claimed limitations.

(a) Applicant argues "The combined references, including Stiegler fail to disclose the claimed feature of 'a data source for compressed audio and video data'..." on page 40, 2nd paragraph of the Remarks filed 11/01/06.

Although it is well known for video cameras to be a data source for both audio and video signals, and since the Stiegler reference teaches left and right video channels (col. 6, lines 33-41), and does not explicitly teach left and right audio channels, the Examiner has brought in Glass (4310849) to teach this limitation.

(b) Applicant argues "... Stiegler also fails to disclose the claimed feature of 'a demultiplexer to separate the compressed audio and video data contained in one compressed signal'" on page 40, 3rd paragraph of the Remarks filed 11/01/06.

Examiner has brought in Glass (4310849) to teach this limitation.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-10, and 12-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Stiegler et al. (US 5,940,398), in view of Glass (4310849), in view of Sekine et al. (US 5,808,660), in further view of Wakai et al. (US 5,596,647), in further view of Ng et al. (US 5,121,205), in further view of Stanger et al. (US 6,097,435).

Regarding claims 1, 13-15, and 19, Stiegler teaches a local (ring) network 31-fig. 3 in a vehicle with several subscribers (nodes) 32-42 distributed over the vehicle, which form data sources and data sinks (receivers) (col. 4, lines 10-16; col. 6, lines 14-23 & 24-28; col. 1, lines 52-60) and which are collected with one another by a data line (optical fiber) 43 to transmit audio (col. 2, line 28), video (col. 2, lines 29) and control data (col. 3, lines 12-21), such that the audio, video, and control data are transmitted in a format which prescribes a clocked sequence of individual bit groups of the same length (col. 1, lines 65-67), in which certain bit positions are provided respectively for the audio, video, and control data, (col. 1, line 67-col. 2, line 8) and the bit positions for the audio or video data respectively are collected together in several collected component (partial/regions of) bit groups (col. 2, lines 4-12), and the data assigned to these component bit groups

are assigned by transmitted control signals to a certain data source or data sink (col. 2, lines 6-8; col. 6, lines 45-49), at least one data source (video camera 41 and/or CD player 42, inter alia; col. 2, lines 26-31) being present for audio (CD player 42 provides audio and col. 3, lines 40-45 & col. 6, lines 35-40; and at least one data sink being present for the audio (amplifier 34 and/or speaker 35) and video data (control and display unit 32) transmitted over the data line, wherein the at least one data source comprises:

a data source for audio and video data (as discussed above) including, a demultiplexer to separate the audio data contained in one signal (Stiegler inherently teaches a demultiplexer in order for the system to separate the data into left and right channels or to separate "channels of **any** kind", e.g., to separate a stereo audio CD into left and right channels as disclosed in col. 6, lines 33-41 and col. 3, lines 8-11 & lines 33-39),

a bit stream decoder to decode the audio data (col. 4, lines 42-47; in which data of various kinds, interpreted by the Examiner to include audio is decoded, i.e., distinct channels are identified from a CD for example and allocated to a single specified bit group),

a bus interface (Stiegler inherently discloses a bus interface in order for the devices 32-42 to be sources and sinks for data as disclosed) that inserts the decoded audio data (col. 3, lines 4-11; col. 6, lines 33-40) and the video data (col. 4, lines 31-33; col. 6, lines 33-40) into their corresponding component bit groups (col. 2, lines 18-25, 48-59; col. 6, lines 50-54), however Stiegler

fails to teach a data source for compressed audio and video data, a demultiplexer to separate the compressed audio and compressed video data in one compressed signal, an audio buffer for intermediately storing the separated audio data, a bit rate converter to recode the compressed video data, a video buffer for intermediately storing the separated video data, and a control unit that is connected to the audio buffer and the video buffer, and which specifies and controls the adjustable intermediate storage time of the buffers.

In an analogous art, Glass teaches a data source for audio and video data (72A-right audio signal, 71A, right video signal, 71B-left video signal, 72B-left audio signal; col. 5, lines 32-48) and a demultiplexer to separate audio and video data (Tuners 83 and 84 convert (demultiplex) the signals received into video and audio signals – col. 5, line 54-col. 6, line 15).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Stiegler's invention to include the above mentioned limitation, as taught by Glass, such that the receiver could simultaneously receive and demodulate the transmitted right channel and left channel signals, and simultaneously display the video signal and play the audio signal.

However, Stiegler and Glass fail to teach an audio buffer for intermediately storing the separated audio data, a bit rate converter to recode the compressed video data, a video buffer for intermediately storing the separated video data, and a control unit that is connected to the audio buffer and the video buffer, and which specifies and controls the adjustable intermediate storage time of the buffers.

In an analogous art, Sekine teaches it is desirable to use compressed audio/video (MPEG compression of audio/video) either MPEG1 or MPEG2 for transmission of signals at various definition (bit rates) depending on the type of device connected to the network (col. 6, lines 6-12; col. 4, lines 40-43; figs. 10-11). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Stiegler and Glass to include compressed audio/video as taught by Sekine for the added advantages of being in compliance with a well known/commercial standard that enables reduced bit rate playback of a diverse selection of media/media types, e.g., video CDs, DVD standard discs, MP3 audio, etc., and media playback devices.

Stiegler and Glass in view of Sekine fail to teach an audio buffer for intermediately storing the separated audio data, a bit rate converter to recode, a video buffer for intermediately storing the separated video data, and a control unit that is connected to the audio buffer and the video buffer, and which specifies and controls the adjustable intermediate storage time of the buffers.

In an analogous art, Wakai teaches it is desirable to use an audio buffer for intermediately storing separated audio data before it is transmitted to a ring network so that synchronization within the passenger entertainment system is maintained based on the network transmission rate (fig. 1) (col. 24, lines 23-42). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Stiegler and Glass in view of Sekine to include an audio buffer for

intermediately storing the separated audio data as taught by Wakai for the well known advantages of improving transmission load efficiency and reducing data read/write/codec errors because buffers enable interconnecting of two digital circuits operating at different rates, holding data for use at a later time, allowing timing corrections to be made on a data stream, and collecting binary data bits into groups that can then be operated on as a unit.

Stiegler, Glass, Sekine and Wakai, fail to teach a bit rate converter to recode, a video buffer for intermediately storing the separated video data, and a control unit that is connected to the audio buffer and the video buffer, and which specifies and controls the adjustable intermediate storage time of the buffers.

In an analogous art Ng teaches a bit rate converter 514 (fig. 5) to recode a high definition signal 510 (fig. 5) to a standard (lower resolution) MAIN signal, e.g., a NTSC signal shown at 515 (col. 5, lines 13-35; col. 2, lines 21-30). Ng teaches a video buffer 516 (fig. 5) for intermediately storing the separated video data (col. 5, lines 29-32). Ng does this so that when the signal (Y' I' Q') separated from the high definition signal 510 is received as an auxiliary signal by a receiver/decoder it will maintain synchronism with the main signal, e.g., audio or video, transmitted on a network are properly aligned/synchronous when recombined for presentation at the receiver/decoder (col. 2, lines 14-31). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Stiegler, Glass, Sekine and Van Steenbrugge to include a bit rate converter to recode, and a video buffer for

intermediately storing the separated video data as taught by Ng for the added advantage of minimizing system and receiver cost by transmitting a less bandwidth demanding signal that is compatible with a plurality of commercially available and standard receiver devices.

Stiegler, Glass, Sekine, Wakai, and Ng teach control units connected to the audio (Van Steenbrugge – col. 5, lines 25-35 – control arrangement 416 – fig. 4) and video buffers (Ng - 516, 518 – fig. 5; col. 4, lines 9-12; col. 5, lines 29-32 & lines 50-56), however, Stiegler, Glass, Sekine, Wakai, and Ng fail to teach a control unit which specifies and controls the adjustable intermediate storage time of the buffers.

In an analogous art Stanger teaches it is desirable to use a control unit 80 (fig. 4) which specifies and controls the adjustable intermediate storage time of buffers for controlling bit rate output when distributing compressed a audio/video signal in a limited bandwidth network (col. 4, lines 42-51; col. 3, lines 15-47; col. 7, lines 39-42). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Stiegler, Glass, Sekine, Van Steenbrugge, and Ng to include a control unit which specifies and controls the adjustable intermediate storage time of the buffers as taught by Stanger for the added advantage of reducing the bit rate of the source signal and conserving bandwidth on the data line/ring network (Stanger – col. 1, lines 30-34).

Regarding claim 2, Stiegler, Glass, Sekine, Wakai, Ng and Stanger teach the data source for compressed audio and video data 510 (Ng - fig. 5) comprises a data source for other (auxiliary) compressed data (delta Y, delta I, delta Q – Ng fig.5) where the demultiplexer separates the other compressed data from the compressed audio data and the video data (Ng – col. 5, lines 43-49; col. 2, lines 14-15, 22-25; Stiegler – col. 2, lines 26-27), and wherein the data source further comprises

a second bit rate converter 542 (Ng – fig. 5) for recoding the other compressed data (col. 7, lines 34-36 & col. 7, lines 60-66; in which a compressed video source of variable bit rate is converted/recoded to a constant data rate for multiplexing with audio and control data – fig. 6), and

a data buffer (518 – fig. 5; 625 – fig. 6) for intermediately storing the separated other data (col. 5, lines 50-56; col. 7, 38-63), and where the bus interface inserts the decoded audio data, the recoded video data, and the recoded other data into their corresponding component bit groups (Stiegler – col. 2, lines 9-27 & lines 52-62; col. 3, lines 48-52; col. 4, lines 42-47; col. 6, lines 50-54).

Regarding claim 3, Stiegler Glass, Sekine, Wakai, Ng and Stanger teach at least one of the audio and video buffers is situated before the bus interface (It would have been obvious to situate the audio and video buffers before the bus/transmission network interface to reduce compression/decompression errors, i.e., "jitter", by synchronizing the

rates of operation of data source/subscriber and the transmission network; Wakai – col. 24, lines 39-42).

Regarding claim 5, Stiegler, Glass, Sekine, Wakai, Ng and Stanger teach analytical units associated with the bit stream decoder and the bit rate converters, where the analytical units determine a time relation of the compressed video data with respect to the compressed audio data, and where the analytical units are connected to the control unit to specify the intermediate storage times of the audio, video and other buffers (Stanger - col. 3, lines 64-col. 4, line 1; col. 4, lines 42-51; col. 5, lines 12-15; col. 6, lines 15-42 & col. 7, lines 4-7).

Regarding claim 6, Stiegler, Glass, Sekine, Wakai, Ng and Stanger teach the control unit controls the bit stream decoder and the bit rate converters (Stanger - col. 3, lines 64-col. 4, line 1; col. 4, lines 42-51; col. 5, lines 12-15), to synchronize the time relation between the decoded audio data, the recoded video data and the recoded other data (Stanger - col. 4, lines 45-51).

Regarding claim 7, Stiegler, Glass, Sekine, Wakai, Ng and Stanger teach the data line comprises an optical line (Stiegler – col. 6, lines 15-18).

Regarding claim 8, Stiegler, Glass, Sekine, Wakai, Ng and Stanger teach the bit rate converter that recodes the compressed video data is connected to the control unit (as discussed above in claim 1), and where the control unit controls the bit rate converter for the compressed video data to control an amount of data reduction during a bit rate conversion process performed by the bit rate converter (Stanger – col. 3, lines 43-49; col. 6, lines 15-42 & col. 7, lines 4-7) in dependence on one of the resolution and the size of a display in the associated data sink for video data (Ng – col. 5, lines 19-29; it would have been obvious to provide bit rate reduction depending on the resolution of the receiver's display because it improves bandwidth efficiency by eliminating excessive bit rates while still providing a high quality image and minimizes receiver/decoder cost because the device will not require the more expensive equipment used to decode high bit rates – Stanger – col. 8, lines 18-22).

Regarding claim 9, Stiegler, Glass, Sekine, Wakai, Ng and Stanger teach the bit stream decoder decodes the compressed audio data by converting the compressed audio signal into a PCM (SPDIF) signal (Stiegler – col. 3, lines 44-47; in which Stiegler inherently discloses a PCM signal because SPDIF or IEC 958 type II specifies PCM audio signals).

Regarding claim 10, Stiegler, Glass, Sekine, Wakai, Ng and Stanger fail disclose the data source comprises a DVD player, however the examiner takes Official Notice

that it was well known at the time of the applicants invention to use DVD players as sources for compressed video such as commercial/theatrical releases of movies and audiovisual entertainment. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Stiegler, Glass, Sekine, Wakai, Ng and Stanger to include a DVD player (as evidenced by Nakatsugawa US 6,408,011 B1 – col. 9, lines 15-20 & 39) for the advantage of providing commercially available and inexpensive entertainment media of high quality.

Regarding claim 12, Stiegler, Glass, Sekine, Wakai, Ng and Stanger teach a control unit connected to the audio buffer, the video buffer, and the other data buffer, that specifies and controls the adjustable intermediate storage time of the audio, video and other buffers as discussed in claim 1 above.

Regarding claim 16, Stiegler, Glass, Sekine, Wakai, Ng and Stanger, teach where the audio data processing path comprises:

a bit stream decoder for decoding the separated compressed audio data, and for converting the audio data into an uncompressed format (Wakai – 20- fig. 2; it would have been obvious to decompress the signal to minimize receiver hardware cost by eliminating the need for a hardware mixer); and

an audio buffer for storing the separated audio data for an intermediate time determined by at least one of the control instructions (Stanger – col. 4, lines 42-51).

Regarding claim 18, Stiegler, Glass, Sekine, Wakai, Ng and Stanger, teach the subscriber data source comprises:

a device that generates the compressed source signal including compressed audio data and compressed video data (as discussed in claim 1 above); and where the pre-processing circuit separately processes the compressed audio data and the compressed video data to generate uncompressed audio data (Wakai – 20- fig. 2; it would have been obvious to decompress the signal to minimize receiver hardware cost by eliminating the need for a hardware mixer) and a reduced quantity of compressed video data (as discussed above in claim 1).

Regarding claim 20, Stiegler, Glass, Sekine, Wakai, Ng and Stanger, teach decoding the compressed audio data into an uncompressed format (Wakai – 20- fig. 2; it would have been obvious to decompress the signal to minimize receiver hardware cost by eliminating the need for a hardware mixer;

recoding the compressed video data to reduce the quantity of video data (Ng – col. 5, lines 20-29; Stanger – col. 6, lines 15-24; col. 8, lines 18-21); and

combining the decoded audio data and the recoded video data into component picture groups for parallel transmission over the local network to their respective data sinks (Stanger – col. 5, lines 56-64; Stiegler – col. 6, lines 33-54).

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stiegler et al. (US 5,940,398), in view of Glass, in view of Sekine et al. (US 5,808,660), in further view of Wakai et al. (US 5,596,647), in further view of Ng et al. (US 5,121,205), and in even further view of Stanger et al. (US 6,097,435) as applied to claim 1 above, and further in view of Kawamura et al. (US 2001/0014207 A1).

Regarding claim 4, Stiegler, Glass, Sekine, Wakai, Ng and Stanger fail to teach at least one of the audio and video buffers is interposed between the demultiplexer and the bit stream decoder and the bit rate converter associated with the audio and video buffers.

However, in an analogous art Kawamura teaches at least one buffer (6,9, and 12 – fig. 1) is interposed between the demultiplexer 5 and the bit stream decoders 8,11, 14 for synchronizing the signals based on decoding time stamps detected (par. 103, 165, 167, 22).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Stiegler, Glass, Sekine, Wakai, Ng and Stanger to include at least one of the audio and video buffers is interposed between the demultiplexer and the bit stream decoder associated with it as taught by Kawamura for the added advantage of improving the quality of the system by enabling separated signals, e.g., from audiovisual content, to stay synchronized within themselves and the network when played back on a device (Kawamura –par. 22, Stiegler – col. 4, lines 20-25).

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stiegler et al. (US 5,940,398), in view of Glass, in view of Sekine et al. (US 5,808,660), in further view of Wakai et al. (US 5,596,647), in further view of Ng et al. (US 5,121,205), and in even further view of Stanger et al. (US 6,097,435) as applied to claim 1 above, and further in view of Fujii et al. (US 5,898,695).

Regarding claim 11, Stiegler, Glass, Sekine, Wakai, Ng and Stanger teach control signals (including clock signals) are transmitted to the receiver (data sink) (Stiegler – col. 3, lines 13-2; col. 4, lines 26; col. 6, lines 45-47) however Stiegler, Glass, Sekine, Wakai, Ng and Stanger fail to teach the data sink comprises a buffer for the intermediate storage of the received data, where an intermediate storage time of the data sink buffer is adjusted as a function of a control signal transmitted from the data source via the data line.

In an analogous art Fujii teaches the data sink comprises a buffer (71, 74 – fig. 1) for the intermediate storage of the received data, whose storage time can be adjusted as a function of the control signal 72 (col. 8, lines 4-27; col. 8, line 66-col. 9, line 3). It would have been obvious to one of ordinary skill in the art at the time of the applicants invention to modify the system of Stiegler, Glass, Sekine, Wakai, Ng and Stanger to include the data sink comprises a buffer for the intermediate storage of the received data, whose storage time can be adjusted as a function of the control signal as taught by Fujii for the added advantage of preventing decoding/receiving errors caused by the

inherent delays in the system by synchronizing the audio and video programs (Fujii - col. 8, line 66-col. 9, line 3).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumaiya A. Chowdhury whose telephone number is (571) 272-8567. The examiner can normally be reached on Mon-Fri, 9-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAC


ANDREW Y. KOENIG
PRIMARY PATENT EXAMINER